



Western Washington University
Western CEDAR

Salish Sea Ecosystem Conference

2014 Salish Sea Ecosystem Conference
(Seattle, Wash.)

May 2nd, 8:30 AM - 10:00 AM

The 2013 State of the Sound: Status of the ecosystem

Nathalie Hamel

Puget Sound Partnership, nathalie.hamel@psp.wa.gov

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**PUGET SOUND ECOSYSTEM
MONITORING PROGRAM**

PugetSoundPartnership
LEADING PUGET SOUND RECOVERY

Reporting the State of the Puget Sound Ecosystem

Nathalie Hamel
Salish Sea Ecosystem Conference 2014



Reporting Tool



Collaborators

State

Adam Lindquist, Washington Department of Fish and Wildlife
Alex Mitchell, Puget Sound Partnership
Christopher Clinton, Washington Department of Ecology
Christopher Krembs, Washington Department of Ecology
Dave Ward, Puget Sound Partnership
Dayv Lowry, Washington Department of Fish and Wildlife
Fred Short, Washington Department of Natural Resources
Hugh Shipman, Washington Department of Ecology
Jim West, Washington Department of Fish and Wildlife
Julie Lowe, Washington Department of Ecology
Kari Stiles, Puget Sound Partnership
Ken Koch, Washington Department of Ecology
Kenneth B. Pierce Jr., Washington Department of Fish and Wildlife
Kurt Stick, Washington Department of Fish and Wildlife
Leska Fore, Puget Sound Partnership
Maggie Dutch, Washington Department of Ecology
Markus Van Prause, Washington Department of Ecology
Mindy Roberts, Washington Department of Ecology
Paul Pickett, Washington Department of Ecology
Pete Dowty, Washington Department of Natural Resources
Randy Carman, Washington Department of Fish and Wildlife
Scott Berbells, Washington Department of Health
Scott Pearson, Washington Department of Fish and Wildlife
Stuart Glasoe, Washington Department of Health



**PUGET SOUND ECOSYSTEM
MONITORING PROGRAM**



Puget Sound Partnership
LEADING PUGET SOUND RECOVERY



WASHINGTON STATE DEPARTMENT OF
Natural Resources

Federal

Paul Cereghino, NOAA
Christopher Konrad, U.S. Geological Survey
Mindy Rowse, NOAA

NGOs

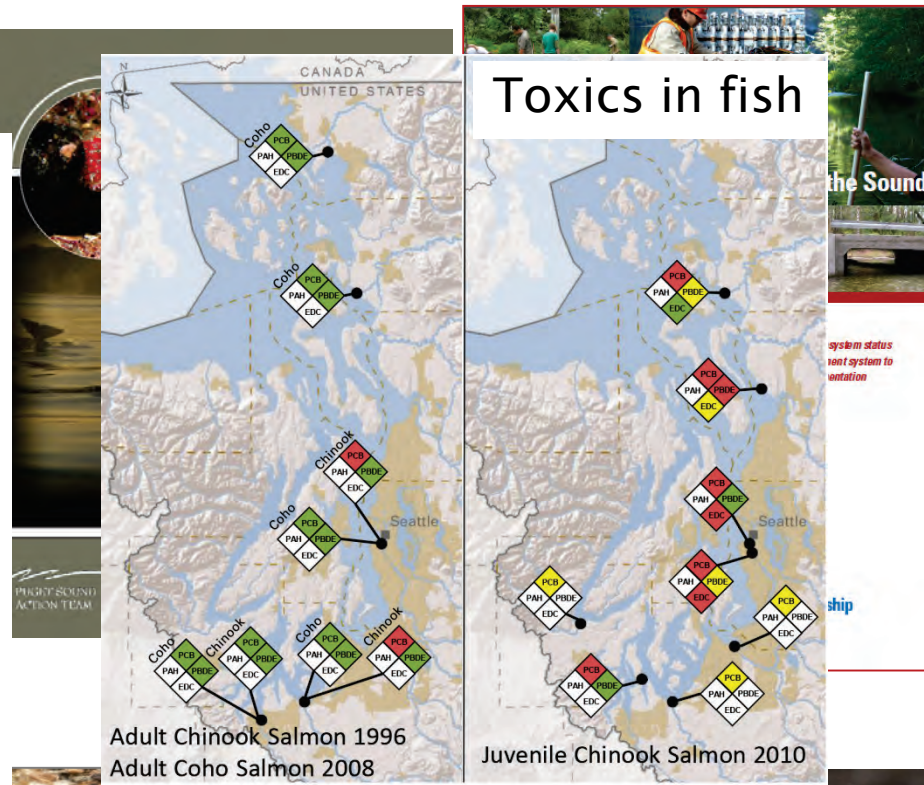
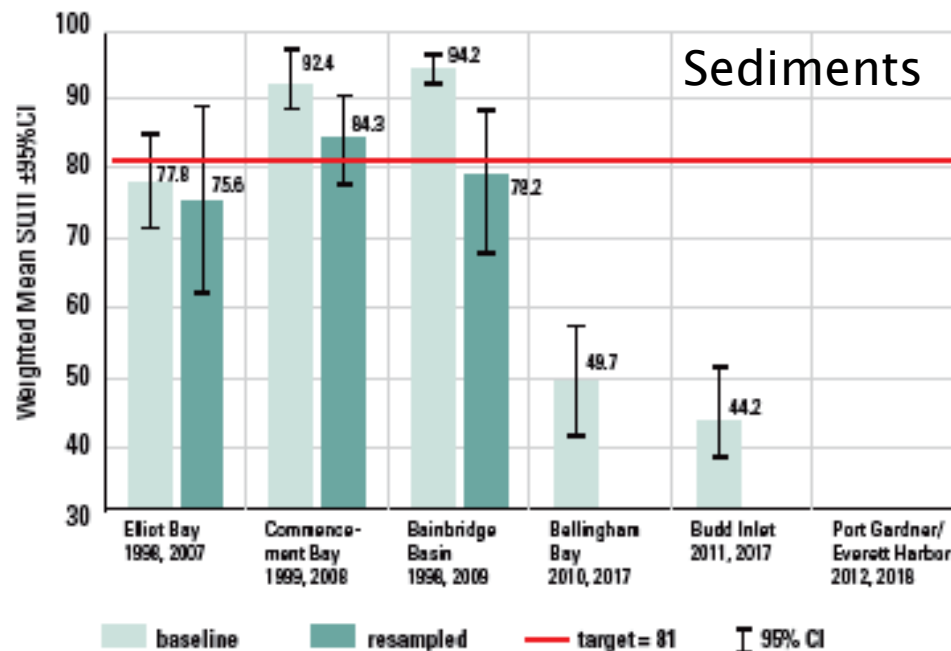
Ken Balcomb, Center for Whale Research
Bob Carey, The Nature Conservancy

Local

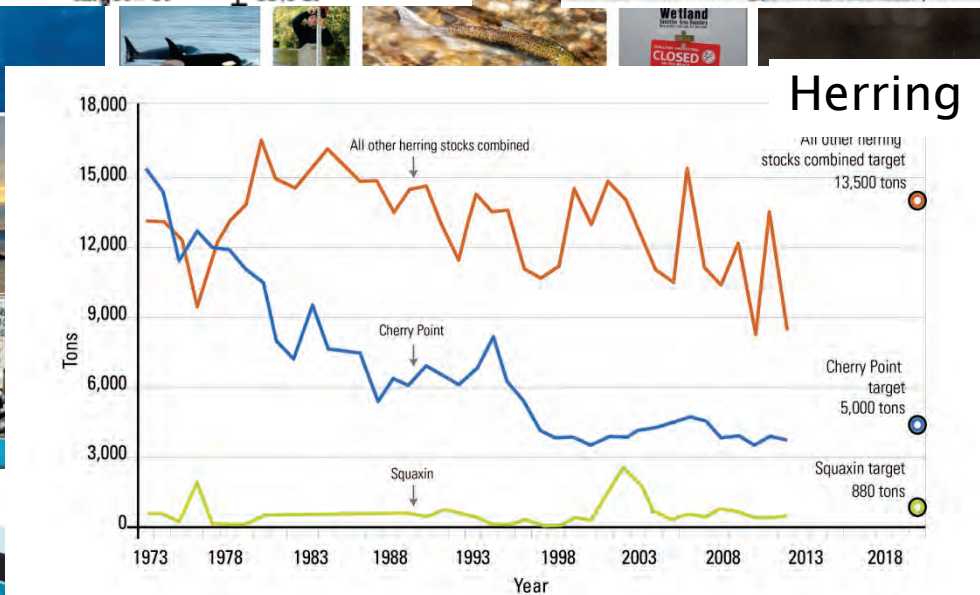
Jo Wilhelm, King County
and the Recovery Implementation Technical Team (RITT)



PUGET SOUND'S HEALTH



STATE OF THE SOUND 2007



Characteristics of Vital Signs

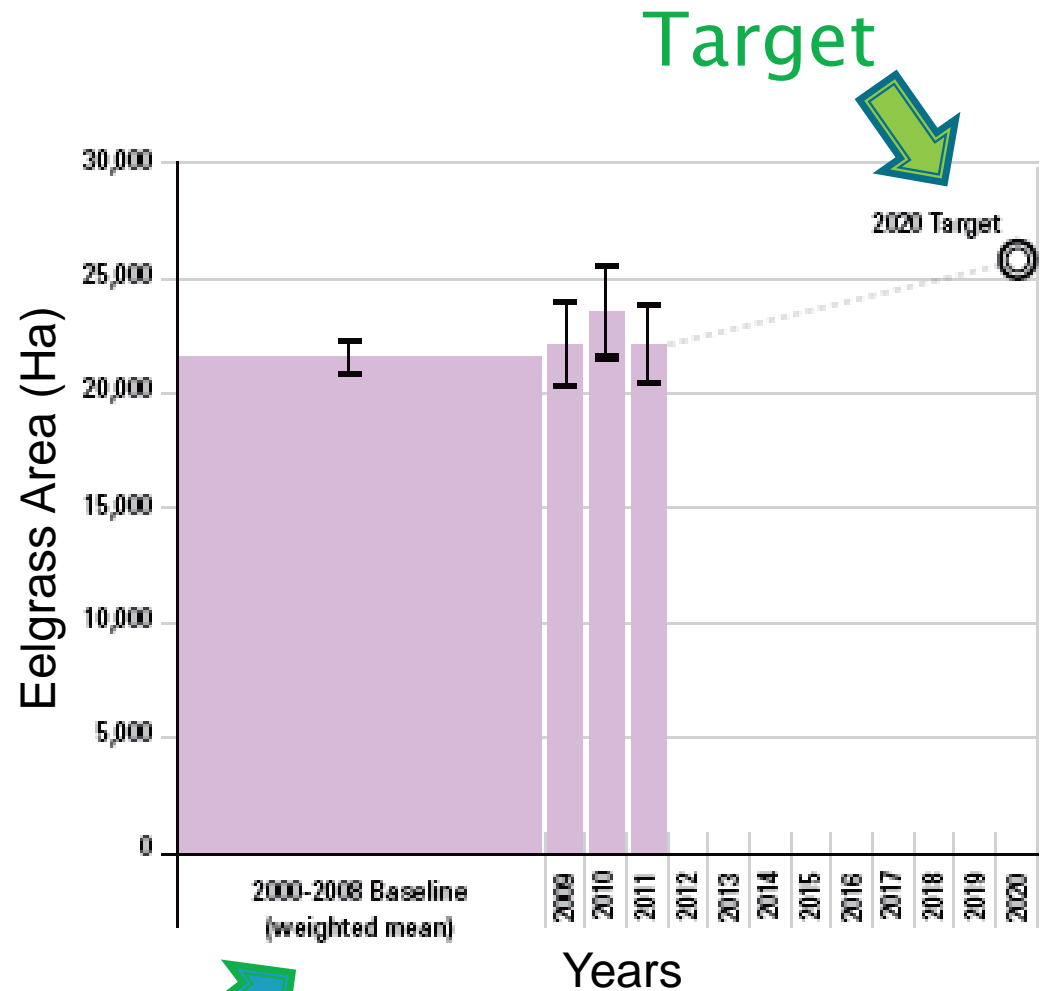
- Communication
 - ✓ Appeals to wide audience
- Scientific foundation, e.g.,
 - ✓ Good surrogates
 - ✓ Historic data
 - ✓ Responds predictably
- Connections to recovery goals
 - ✓ Ecosystem wide
 - ✓ Baselines and targets



We gauge status of progress with baselines and targets

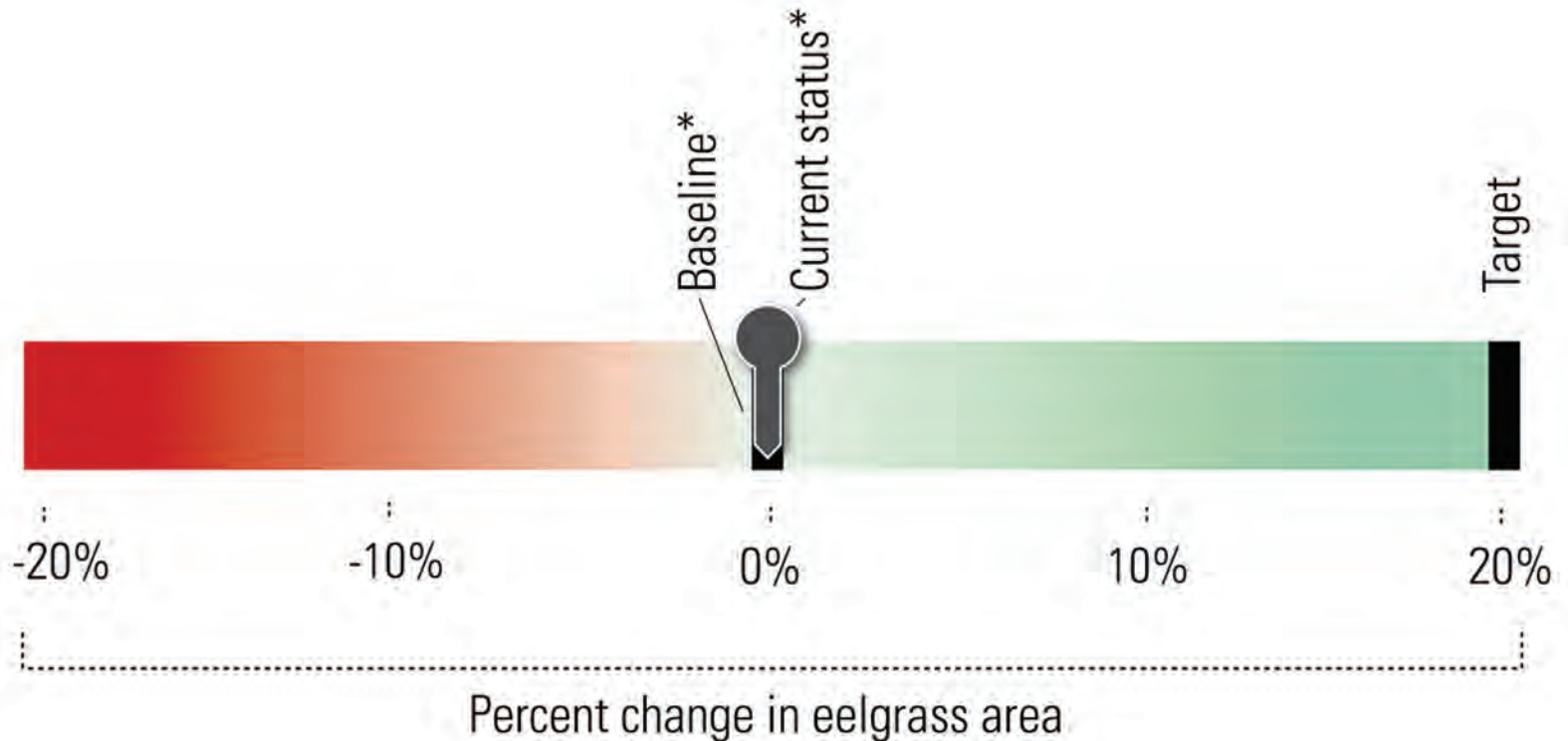
Eelgrass target:

20% more by 2020



Source: F. Short, DNR

Progress, in a nutshell



* The baseline is for years 2000-2008. The status is for year 2011.

Characteristics of Vital Signs

- Communication
 - ✓ Appeals to wide audience
- Scientific foundation, e.g.,
 - ✓ Good surrogates
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✓ Synthesis and scaling up

Freshwater Vital Sign

1. Water Quality Index



2. Bugs in streams (Benthic Index of Biotic Integrity)



3. Impaired waters



Jo Wilhelm

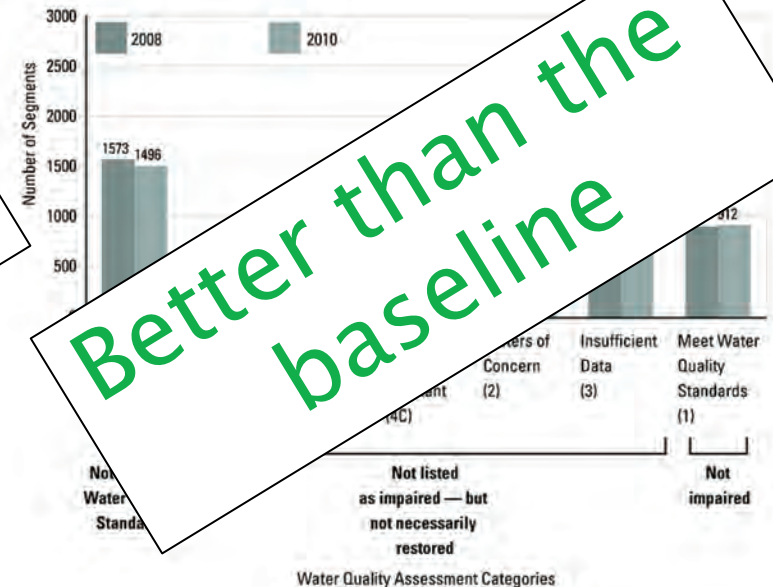


Freshwater Vital Sign Progress

Water Quality Index

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average
Duckabush River nr Brinnon	93	95	94	90	74	94	89	85	88	96	86	89	97	90
Skokomish River nr Potlatch	95	95	94	85	70	67	92	89	89	94	86	70	88	86
Snohomish River at Snohomish	92	91	89	81	74	75	89	75	81	85	79	77	90	83
Elwha River nr Port Angeles	86	88	83	76	73	74	86	67	66	81	81	76	64	
Cedar River at Logan St/Renton	87	76	60	78	72	84	81	79	79	81	77	75		
Skagit River at Marblemount	87	85	59	85	64	81	84	75	75	81	56			
Skagit River nr Mount Vernon	89	91	71	76	61	73	77	77	75	76				
Nisqually River at Nisqually	40	60	79	79	69	71	74	75	91					
Deschutes River at East St Bridge	62	72	70	73	61	83	88	88						75
Stillaguamish River nr Silvana	81	60	44	72	55	67	71							68
Green River at Tukwila	82	73	66	67	75	49								68
Samish River nr Burlington	86	75	32	49	34									63
Nooksack River at Brennan	65	68	58	57						69	56	55	62	59
Puyallup River at Meridian St	60	58	57						61	49	62	56	71	58

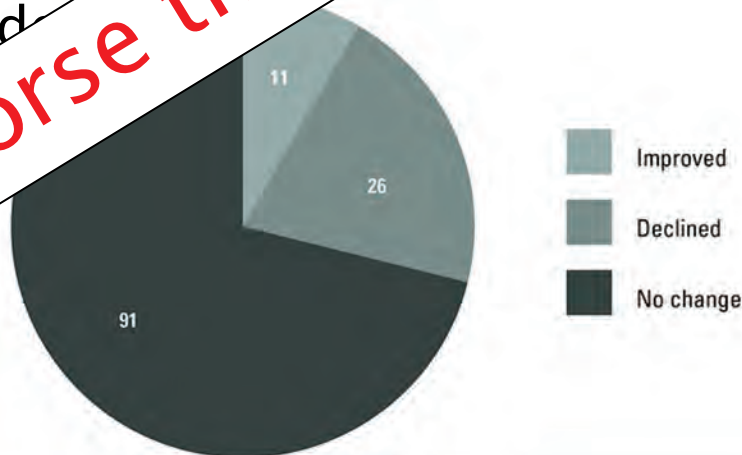
Impairments



Better than the baseline

Bug Index

Worse than the baseline

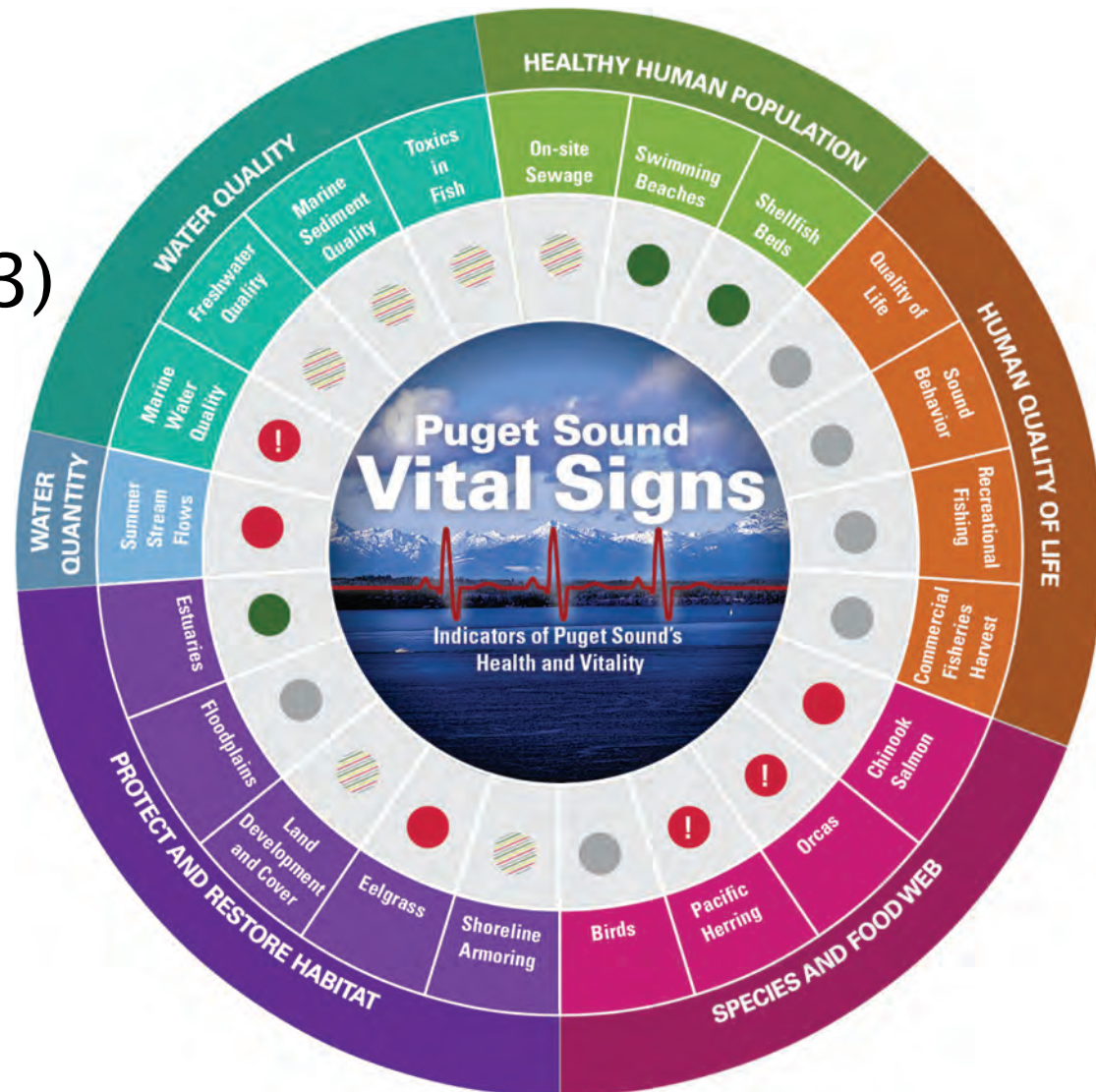


Conclusion: Mixed



Vital Sign Progress – 2013

- Yes (3)
- No: no change (3)
- ! No: worse (3)
- Mixed (6)
- N/A (6)




Summary of Ecosystem Status

- Few Vital Signs are showing progress
- Some have lost ground, e.g., orcas
- Far from 2020 targets

Many Vital Signs are long-term,
outcome indicators


Need for more short term, responsive indicators

Vital Signs Online

**Puget Sound
Vital Signs**

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Vital Signs Wheel](#)[Puget Sound
Project Atlas](#)[Puget Sound
Report Card](#)

PugetSoundPartnership

Choose a Vital Sign 


Eelgrass

Eelgrass and other seagrass species are used as indicators of estuarine health throughout the world.

Indicator Lead: Fred Short, Washington State Department of Natural Resources

[View Projects](#) [View Report Card](#) [Download PDF from the latest State of the Sound report](#)

Date last updated on March 21, 2014



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www.psp.wa.gov/vitalsigns/index.php

Thank you!

- Indicator Leads
- National Estuary Program, EPA

